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## STUDIES IN TROPICAL ASCOMYCETES—I

### NEOPECKIA DIFFUSA AND HERPOTRICHIA ALBIDOSTOMA

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(WITH PLATE 19)

Through our own collections and the contributions or exchanges of others, an increasing amount of tropical material is continually coming to hand and it is the intention of the writer to publish from time to time notes on the more interesting species under the above general title. It is not the intention to restrict these notes to those species which are found in the tropics only but to include any forms which are of especial interest even though they may be cosmopolitan in their distribution as are the two which make up the subtitle of the present paper. These although frequently collected in the tropics were not originally described from tropical material, neither are they confined thereto, but have a very wide range of distribution.

On several occasions the attention of the writer has been called to the confusion which has resulted from the external similarity of the two above-named species while internally they are so different that they have been placed in different genera. As to the merits of the generic separation, the reader may judge for himself, the present paper being an attempt to emphasize the specific differences of the two species and to note some of the apparent synonyms and the wide range of distribution of the plants.

Several years ago the writer took the time to make microscopic examination of the spores of all of the specimens in the collection

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SPORES OF NEOPECKIA AND HERPOTRICHIA

of the New York Botanical Garden under these names in order to separate the two species and found no difficulty in making the separation on microscopic characters. Chardon,<sup>1</sup> however, in his recent paper on the Pyrenomycetes of Porto Rico calls attention to the fact that Stevenson in his list of Porto Rican Fungi refers one of his numbers to *Herpotrichia albidostoma* and the other three to *H. diffusa*, while all of them agree in spore characters with the former. This is a fair illustration of the confusion which has always existed where determinations are made on superficial examination rather than on a detailed study of the spore characters, although the importance of this kind of work will scarcely be appreciated until one has taken the trouble to make comparative studies of a large number of specimens. Another fact which has been emphasized is the constancy of spore characters in specimens collected over a wide range of distribution including both temperate and tropical species.

Some of the gross characters common to the two species which are responsible for the existing confusion are: the subiculum of brown mycelium which is usually present but may be entirely wanting in older or weathered specimens, the light-colored usually reddish ostiola which are conspicuous but which may become discolored with age, and the gregarious or often rather congested habit of growth. The differences in spore characters are: size, form, color and septation. Since these characters, except color, can be shown better by illustration than by description, the reader is referred to the accompanying plate for illustrations of the spores of the two species made from specimens collected over a wide range.

Both species have been referred to the genus *Herpotrichia* and a word ought to be added regarding the generic position of *Neopeckia diffusa*. In 1912 while working over these specimens in our collections the writer had a rather extended correspondence with Peck regarding the generic position of *Herpotrichia rhodospiloides* Peck, maintaining that this species belonged to the genus *Neopeckia* rather than *Herpotrichia*. Later study showed this species to be identical with *Herpotrichia diffusa* which had already been

<sup>1</sup> Mycologia 13: 279-300. 1921.

placed in the genus *Neopectia* by Starbäck,<sup>2</sup> thus confirming the contention of the writer. *Neopectia* differs from *Herpotrichia* in that the spores are never more than 1-septate while in the latter they show a tendency to become more than 1-septate, although in the species under discussion they are only occasionally so.

We give below a description of the two species with a list of the apparent synonyms of each and some idea of the wide range of distribution. Attention is especially called to the close similarity in size and form of the spores from specimens collected in widely separated localities. While the specimens often vary in the amount of tomentum present, color, etc., the spores remain constant in size and form and without the spore characters it would be very difficult, if not impossible, to decide in many cases on the identity of the species.

NEOPECTIA DIFFUSA (Schw.) Starb. Bih. Sv. Vet.-Akad. Handl.  
19 (3)<sup>2</sup>: 30. 1894

*Sphaeria diffusa* Schw. Trans. Am. Phil. Soc. II 4: 210. 1832.

*Sphaeria rhodomphala* Berk. Hooker's Jour. Bot. 4: 313. 1845.

*Herpotrichia rhodomphala* Sacc. Syll. Fung. 2: 212. 1883.

*Amphisphaeria subiculosa* Ellis & Ev. Jour. Myc. 2: 103. 1886.

*Byssosphaeria diffusa* Cooke, Grevillea 15: 81. 1887.

*Amphisphaeria diffusa* Sacc. Syll. Fung. 9: 747. 1891.

*Herpotrichia rhodospiloides* Peck, Bull. Torrey Club 36: 154.  
1909.

Perithecia gregarious, globose, seated on or involved in an effused, thin, black tomentum, subglabrous and dull reddish-brown or grayish at the apex, sometimes entirely black; ostiola obscurely lacerated; asci clavate or subcylindric, 60–100  $\mu$  long, 10–12  $\mu$  broad; spores crowded or subdistichous, oblong or fusoid, straight or slightly curved, 1-septate, usually with one or two oil-drops in each cell, hyaline, becoming pale-brown, 6–8 x 16–20  $\mu$ .

On dead wood and twigs.

TYPE LOCALITY: Bethlehem, Pennsylvania.

DISTRIBUTION: North America; Guadeloupe; Trinidad.

ILLUSTRATION: E. & P. Nat. Pfl. 1: 396, f. 255, H–J.

EXSICCATI: N. Am. Fungi 2130 (as *Amphisphaeria subiculosa*),  
2540 (as *Herpotrichia diffusa*); Fungi Columb. 2835 (as *Herpo-*

<sup>2</sup> Engler-Prantl, Nat. Pfl. 11: 396.

*trichia rhodospiloides*), 3632 (as *Herpotrichia diffusa*); Baker Fungi Malayana 60; Rab.-Wint.-Paz. Fungi Eu. 3960 (as *Herpotrichia diffusa*).

HERPOTRICHIA ALBIDOSTOMA (Peck) Sacc. Syll. Fung. 9: 857.  
1891

*Sphaeria albidostoma* Peck, Ann. Rep. N. Y. State Mus. 32: 51.  
1879.

*Herpotrichia incisa* Ellis & Ev. Proc. Acad. Sci. Phila. 1893: 130.

Perithecia numerous, subcrowded, subglobose, seated upon or involved in a black or blackish-brown tomentum, the ostiolum naked, not prominent, whitish when moist, darker when dry; asci cylindric or subcylindric; spores biseriate, oblong-fusoid, at first 1-septate, constricted at the septum, later often becoming indistinctly 3-5-septate, colorless, becoming pale-yellowish or brownish, 8-10 x 35-45  $\mu$ .

On dead wood or branches (type on *Acer spicatum*).

TYPE LOCALITY: Catskill Mountains, New York.

DISTRIBUTION: North America; Porto Rico; Trinidad.

EXSICCATI: C. L. Smith, Central American Fungi I (as *Herpotrichia diffusa*).

Nearly all of the specimens examined of this species have been distributed under one of the names applied to the preceding species, especially *Herpotrichia diffusa*.

#### EXPLANATION OF PLATE 19

##### NEOPECKIA DIFFUSA (Schw.) Starb. (spores)

Fig. 1. Specimen from the Schweinitz collection, no locality given.

Fig. 2. Arkansas, "Fungi Columbiani" 2835 (as *Herpotrichia rhodospiloides* Peck).

Fig. 3. Baker, "Fungi Malayana" 60.

Fig. 4. Trinidad 2985, collected by the writer.

Fig. 5. Trinidad 3084, collected by the writer.

Fig. 6. Guadeloupe 260, collected by P. Duss.

##### HERPOTRICHIA ALBIDOSTOMA (Peck) Sacc. (spores)

Fig. 7. Specimen from the Peck collection, apparently cotype, New York.

Fig. 8. Porto Rico 5586, collected by J. A. Stevenson.

Fig. 9. Trinidad 3128, collected by the writer.

Fig. 10. "Central American Fungi" 7, distributed by C. L. Smith.

Fig. 11. Louisiana, Langlois 2463 (as *Herpotrichia diffusa* var. *rhodophala* Berk.).

Fig. 12. Canada 1810, collected by John Dearness (as *Herpotrichia incisa* Ellis & Ev.).